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THE
IRON ORES
OF
LAKE CHAMPLAIN;
OR, THE
ADIRONDACK REGION;

THEIR CHEAPNESS OF PRODUCTION AND SUPERIORITY OF THE METAL
MADE FROM THEM, WITH REMARKS IN RELATION TO THE
MAGNITUDE AND VALUE OF THE MINES

OF THE
ADIRONDACK IRON-ORE COMPANY.

NEW YORK:
JOHN F TROW & CO., 50 GREENE STREET.
1867.

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УДАЯЛИ ОБОЗНАЧ





IN proportion to the capital invested or employed, it is doubtful if any business in the United States is more profitable than the mining and selling of Iron ore on Lake Champlain.

The number of tons delivered to the docks at Port Henry the past three years is over *six hundred thousand*.

The ores are transported by wagons of two horses each, over a plank road, at the rate of about 700 tons a day.

The principal mines are owned by the Port Henry Iron Ore Company, the Lake Champlain Iron Ore Company (or Witherbee's, Sherman & Co.), and the Cheever Ore Bed Company, and are all from two to eight miles distant from Port Henry.

The cost of blasting, raising, hauling and docking, is about \$2 $\frac{1}{4}$ or \$2 $\frac{1}{2}$ per ton.

The selling prices have ranged from \$3 $\frac{3}{4}$ to \$7 per ton. The average selling price for the year 1864 was about \$7 $\frac{1}{2}$, and for 1865 and 1866 \$5 $\frac{1}{2}$ per gross ton of 2240 lbs.

— *Applying the current market rates, the actual profit realized from the business during the past three years, cannot be less than ONE AND A HALF MILLIONS OF DOLLARS!*

In the year 1866 the mines yielded about as follows :

New Bed	15,000 tons.
Old Bed	30,000 "
Sanford	20,000 "
Miller	25,000 "
Rousseau	65,000 "
Cheever	50,000 "

About 20,000 tons were raised from two or three smaller mines in the vicinity.

The Cheever mine is near to the Lake—about two miles north of Port Henry—the others are all of them about six or seven miles northwest, in the town of Moriah.

The analyses of Cheever, Sanford, Old Bed, and the Rousseau veins, vary but little from the following:

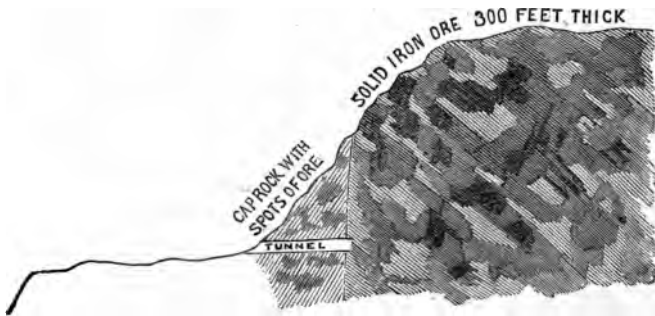
Proto peroxide of iron.....	90.50
Phosphate of lime.....	3.50
Titanic acid.....	1.50
Silicic acid.....	1.80
Amphibole, alumina, and loss.....	2.70— 100

These ores are crystalline, have a bright lustre, and with the exception of the Cheever and New Bed veins, are worked by open cut. The Rousseau and Sanford mines are near together, as the following diagram will show—the dip of the walls being nearly south.



for 300 feet square, covered at the edges with cap-rock, indicating a much larger deposit still; while down the side of the mountain it is bare 170 feet thick of ore, and, doubtless, descends continuously.

A tunnel is being driven into this mine at a point nearly 300 feet below the summit of the mountain. It is now in 120 feet in the cap rock, and will, probably, cut the great deposit in 30 or 50 feet farther drive. The following sketch will explain this. It is a profile view looking from N. E. to S. W.



The ore of this mine is crystalline, resembling that of the Iron Mountain of Missouri. At the surface it is 75 per cent. ; but grows richer at a few feet deep, and will, probably, average 85 to 90 per cent.

when cut in the tunnel. It contains no phosphate of lime or fulphur.

There is every reason to anticipate that this immense deposit, estimated already at five millions of tons above water level, will prove to be the most valuable mine yet discovered near the Lake, for the manufacture of steel.

The distance from Lake Champlain to the mine is about five miles, with descending grade all the way—about 200 feet to the mile on an average.

Northeast of this magnificent mine about half a mile, on Lot No. 4, Morgan's Patent, lies another of great size, being not less than 250 feet thick and 400 feet long, exposing to view a solid mass of mineral its whole extent, at an average of about 70 per cent. of oxide of iron.

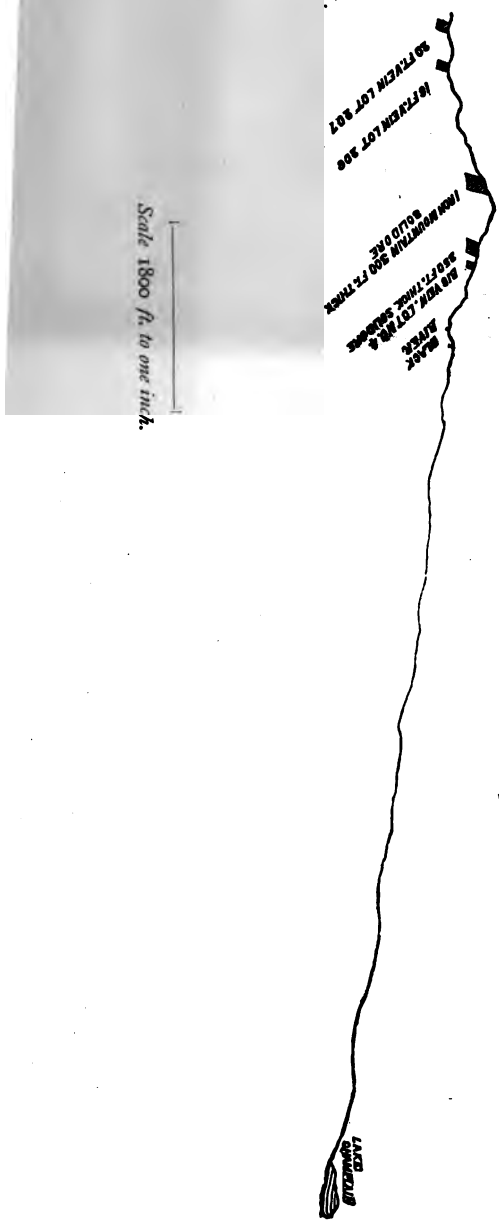
Like the mines at Moriah and that of the Cheever Company, much impurity exists in this ore at the surface.

But there is every reason to believe that, like the Moriah and Cheever mines, these impurities will diminish at a depth of 30 or 50 feet, in which event this

must prove an immensely valuable mine. The quantity is beyond any accurate estimate, and lies several hundred feet above water level, the distance from Lake Champlain being about four and a half miles.

The following diagram will show the position of these great deposits from Lake Champlain.

Outline of elevation of Iron Mountain and mine No. 4, at five miles from Lake Champlain; also veins on lots 206 and 207, the property of the Adirondack Iron Ore Company.



On the Company's land south-east of these large deposits are two very extensive veins of the most valuable ores ever discovered in the State, for the manufacture of steel. One of them is over 60, and the other nearly 100 feet in thickness. Their relative positions may be seen by the following diagram :



They are distant about one mile from each other, are crystalline, of a beautiful bright lustre, and with quartz gangue. *Tried in the forge, both of these mines have produced a quality of metal of extraordinary fineness and tenacity.*

On Lot No. 189, the Company owns the half of a vein 20 feet thick, which has made very fine forge iron.

On Lot No. 199, a vein 40 feet thick, solid ore, analyzes 85 per cent., containing no sulphur, phosphorous, or impurity.

On Lots 171, 206, 197, 150, 182, are large veins

from 15 to 100 feet wide, which have not been tried, but which have every appearance of being mines of great value.

The Adirondack Iron Ore Company's mines which have been thus far tried do not contain phosphate of lime, and in this respect for many purposes will outsell, in all probability, the ores of Port Henry and Moriah. The facility with which they can be mined and delivered at the lake, and the necessary qualifications of first-rate steel ores, which they contain, will, doubtless, render them as valuable as any iron mines in the State.

Another feature in this Company's property consists in its extensive beds of Peat, of pure quality, discovered on lots No. 188, 194, 191, and 182, of the iron ore tract. These beds, from what examination has been made, are believed to be from 25 to 50 feet thick, and cover an area of 100 acres.

If, as is supposed by some men, of mature experience in the manufacture of charcoal iron, this substance can be made into charcoal economically; there would be by estimate three millions of tons, water-weight, equal to 700,000 tons of charcoal, or, as it is usually estimated with wood coal, seventy million bushels—

sufficient to manufacture more than 200,000 tons of forge iron.

Or, if it should prove that, under the recent invention of Mr. Smith, of Rochester, for manufacture of steel sponge, pure peat will answer for decarbonization and reheating, no locality in the State can outbid this for the manufacture of railway bars.

With boundless supplies of ore and fuel, this Company can, with its extensive water front, at Westport, found an establishment for the manufacture of steel rails of the utmost importance to the whole country.

It possesses every earthly advantage for such a business, and it is to be hoped that so soon as the relative merits of the "Bessemer" and "Smith" Patents for the manufacture of steel are proved, Essex County will assume the position to which she is entitled, of being the great producer of steel for the Eastern section of the United States.

Already, five or six of her iron mines make half a million of dollars a year. The Eastern States buy more or less of her ores—they cannot do without them. The magnificent income the mines enjoy equals very nearly that of the great silver mines of Nevada, in proportion to the capital invested.

If a proper attention be given to the advantages the region enjoys for the steel manufacture, a few years may bring to it a production like that of Great Britain, which, since the year 1861, has created a manufacture of "Bessemer steel" amounting, in 1866, to nearly 400,000 tons.

The accompanying map will explain the relative situations of this Company's property with that of the Companies who now mine and sell their ores at Port Henry.

